

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/512,815  
Attorney Docket Q57966

A2 model. Hot casting material (typically molten metal) is then poured into the space occupied by the model. The casting material dissolves the model and thus goes to occupy the space that was previously occupied by the model in the surrounding sand. The final result is therefore the obtainment of a casting, i.e. a workpiece, that exactly reproduces the shape of the model.--

Page 1, after the second paragraph insert the heading

A3 **SUMMARY OF THE INVENTION**

Page 1, the third paragraph ending at the top of page 3 should read as follows:

A4 --The present invention comes to grips, first and foremost, with the problem of optimizing the operations that lead to the model being inserted or drowned in the sand prior to its compaction by vibration. This, in particular, as regards the need of avoiding such phenomena as breakage or displacement of the model (typically realized in the form of a cluster of smaller individual models). Subordinately, the invention also sets out to realize a filling device of the intelligent type, capable - in particular - of identifying the individual model and/or the container into which it has been inserted and thus to render possible, for example, selective specialization of the various processing operations, this to the point of arriving at treating each model/casting in accordance with a particular tailor-made processing recipe.--

Page 2, after the second full paragraph insert the heading

A5 **BRIEF DESCRIPTION OF THE DRAWINGS**

Page 3, before the first paragraph insert the heading

A6 **DETAILED DESCRIPTION OF THE INVENTION**

Page 3, the fourth paragraph should read as follows:

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A7 --In particular, the substation 21 can be defined as a prefilling station: here a certain quality of sand F (as shown in Figure 2) originating from within the silo 20 is fed through a duct 25 and an associated hopper 26 into the bottom part of the container C that at any given moment happens to be in the substation 21.--

Page 4, the first paragraph should read as follows:

A8 --The next substation, indicated by 22, has a somewhat more complex structure that will be described in greater detail later. At the substation 22 the polystyrene models or outlines S (usually in the form of model clusters, as already noted) are arranged inside the containers that have already had a certain quantity of sand filled into their bottom parts at the substation 21. The models S are usually taken from a feeder turntable (not shown in the figure) by means of a robot of which only the pick-up arm is shown by means of a dashed line in Figure 2, where it is identified by the letter R. The design and operating details of the robot in question (which could be of any known type, an anthropomorphic robot being a case in point) are not in themselves relevant for a proper understanding of the invention and will not therefore be described in any detail. Here it will be sufficient to recall the fact that the model S normally consists of a model cluster provided with a grip formation T by means of which it can be picked up by the arm R of the robot to be sustained centrally, i.e. in a position that substantially coincides with the barycentre, by a positioning element indicated by the reference number 27 and subsequently to be described in greater detail.--

Page 5, amend the first full paragraph as follows:

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A9 --The action of filling the container C with sand is completed at the subsequent substations indicated by 23 and 24. As far as complexity is concerned, these two substations may be said to be intermediate between the complexity of substation 21 and that of substation 22. The fact, the substations 23 and 24 include respective ducts 33 and 34 for feeding sand from the silo 20 into the hoppers 35 and 36. In this case, of course, there is no longer present the complex of parts and elements needed for arranging the models S inside the containers C. But what does have to be present at this stage are the lifting organs 31b and 31c and the vibration devices 32b and 32c, which are substantially similar to the devices 31a and 32a that have already been mentioned in connection with substation 22.--

Page 7, the fourth paragraph ending at the top of page 8 should read as follows:

A10 --The said centering formation preferably include a fork element 114a, which - when the element 27 comes to be located (as will be described in greater detail later) at the level of the upper rim of the container C - will engage with an appropriate counterpart projecting from that rim and will thus avoid undesired relative rotations. Usually there will also be present a pin 114b, as well as a corresponding cavity 115 carried in a generically peripheral position by the inner frame of the frame 103...--

Page 14, the first full paragraph should read as follows:

A11 --These variables and the possible changes associated with them can therefore be configured as a typical recipe for each casting.--

Page 15, the full paragraph should read as follows: